

# Technology Watch

## Aviation World's Fair

The centennial of the Wright brothers' historic Dec. 17, 1903, flight will be commemorated with an international Aviation World's Fair.

"It will be a time capsule of the first 100 years that will forever be seen as humankind's entry into the Modern Age—and will be a preview of flight in the century to come," says

Tom Kallman, president of Kallman Associates (703-834-0095), which is organizing the event. Featured attractions are expected to include a first-ever look at former Soviet bloc aircraft kept secret during the Cold War.

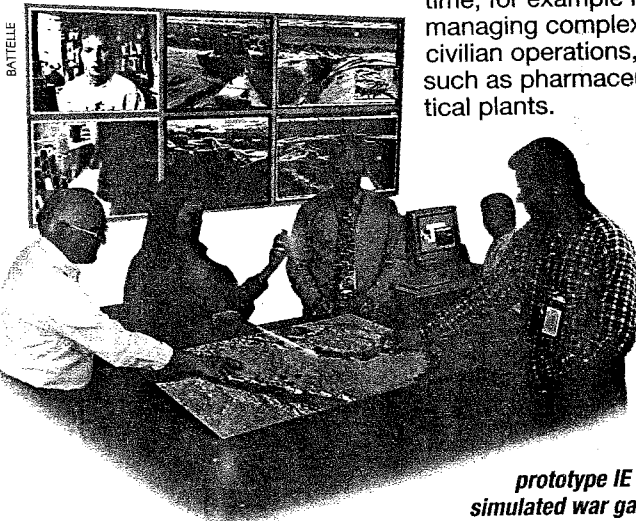
In keeping with its theme, the event will be truly mobile, touching down in South America in March, Europe in June and North America in August 2003. Host cities will be announced later this year.

## Data For Command Decisions

Napoleon, who liked to create detailed models of his battlefields, would be right at home commanding troops from the Immersive Environment (IE) created by the Pacific Northwest National Laboratory in Richland, Wash.

Touching a marker floods computer screens with information about the unit's fighting strength and the sorts of support services it needs to remain in the field or move to a new position.

The IE's developers see it being equally useful in peace time, for example in managing complex civilian operations, such as pharmaceutical plants.



A prototype IE in a simulated war game.

## Reactor Too Costly To Keep

Nuclear engineers in France are preparing to deal with a potentially incendiary problem—removing 5000 tons of sodium coolant from the Superphenix fast-breeder nuclear reactor in the Rhone Valley.

"Sodium has the unfortunate property of bursting into flame in the presence of air and exploding on contact with water," explains a spokesman for Electricite de France, the major shareholder of NERSA, the European company responsible for the reactor's operation.

When Superphenix was commissioned in 1984, the fast-breeder reactor was touted as the near-perfect way to generate electric power because it produced more nuclear fuel than it consumed. Despite potential savings, maintaining Superphenix proved so costly it became cheaper to spend \$2.75 billion to shut it down.



Yimei Zhu zooms in on an atom.

## Ultrapowerful Microscope

A 300-kilovolt high-resolution transmission electron microscope that can magnify samples 50 million times is giving scientists at the Brookhaven National Laboratory a look at atoms.

So far researchers at the Upton, N.Y., lab have used the \$2 million microscope to look at the materials used in superconductors for power transmission lines. Future plans call for training its sights on boron compounds in the hope of making better cancer drugs.

## Computer See, Computer Do

People learn by watching, and someday so might computers.

During a recent visit to the NEC Research Institute in Princeton, N.J., PM saw an important first step in this direction. We watched a demonstration in which an artificial intelligence system used a camera to learn the concept of motion by watch-

ing a block fall repeatedly. So far, NEC's system can also recognize tapping, picking up, putting down, pushing, pulling and throwing motions.

It may not seem like much, but NEC scientist Jeffrey Mark Siskind says it is a promising start. He predicts the day when a robot can be trained to become a maid by watching how its owner performs household tasks like picking up trash, dusting and vacuuming.

